LETTER TO EDITOR

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Panoramic-Based Radiographic Indices as Indicators of Bone Mineral Density at the Lumbar Spine

Wskaźniki wyznaczane na zdjęciach pantomograficznych jako parametry gęstości kości części lędźwiowej kręgosłupa

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A – research concept and design; B – collection and/or assembly of data; C – data analysis and interpretation; D – writing the article; E – critical revision of the article; F – final approval of article

Abstract

The authors of the study entitled “Can Torque Force during Dental Implant Placement Combined with Bone Mineral Density of Lumbar Spine Be Prediction Factors for Crestal Bone Structure Alterations?” published in issue 2014, 51, 4 of Dental and Medical Problems came to the important conclusion that bone mineral density of the lumbar spine is associated with the success of dental implant treatment. Assessment of bone mineral density of the lumbar spine using dual energy X-ray absorptiometry is a procedure that may not be possible or rational for most patients demanding dental implant therapy. Thus, indices derived from routine paraclinical examinations may be valuable in the prediction of success of dental implant treatment. Therefore, using panoramic-based radiographic indices as indicators of prediction factors for a successful implant treatment may be helpful. Mandibular cortical width and mandibular inferior cortex erosion have been linked to bone mineral density at the lumbar spine. Hence, panoramic-based radiographic indices may be useful in predicting the treatment outcome of dental implants. However, more studies are needed to support this hypothesis (Dent. Med. Probl. 2015, 52, 2, 249–250).

Key words: panoramic radiography, bone mineral density, dental implants.

Słowa kluczowe: zdjęcia pantomograficzne, gęstość kostna, wszczepy zębowe.

The article entitled “Can Torque Force during Dental Implant Placement Combined with Bone Mineral Density of Lumbar Spine Be Prediction Factors for Crestal Bone Structure Alterations?” published in issue 2014, 51, 4 of Dental and Medical Problems investigates the possible relationship between insertion torque force and bone mineral density of the lumbar spine with alteration of structure of crestal bone after placement of dental implants. The authors came to the important conclusion that bone mineral density of the lumbar spine is associated with the success of dental implant treatment. Assessment of bone mineral density of the lumbar spine using dual energy X-ray absorptiometry is a procedure that may not be possible or rational for most patients demanding dental implant therapy. Thus, indices derived from routine paraclinical examinations may be valuable in the prediction of the success of dental implant treatment. Based on the European Association of Osseointegration, panoramic radiograph is the most commonly-used imaging technique in implant dentistry and provides useful information regarding teeth, possible associated pathology, and bone structure and density [1]. Therefore, using panoramic-based radiographic indices as indicators of prediction factors for a successful implant treatment may be helpful.

Mandibular cortical width on a panoramic radiograph is measured at the mental region. This radiomorphometric index has been shown to be associated with bone mineral density at the lumbar spine [2]. Moreover, another study reported that a reduction in bone mineral density of lumbar
spine is related to a decrease in mandibular cortical width and an increase in mandibular inferior cortex erosion measured distal to the mental foramen [3]. Hence, a link exists between panoramic-based radiographic indices and bone mineral density of the lumbar spine measured with dual energy X-ray absorptiometry. Thus, a combination of results of these studies leads to the idea that panoramic-based radiographic indices may be useful in predicting the treatment outcome of dental implants. However, more studies are needed to support this hypothesis.

References

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